



## Formalizing community forest tenure rights: A theory of change and conditions for success

Koen Kusters<sup>a</sup>, Maartje de Graaf<sup>a</sup>, Nataly Ascarrunz<sup>b</sup>, Charlotte Benneker<sup>a</sup>, René Boot<sup>a,\*</sup>, Rudi van Kantén<sup>c</sup>, John Livingstone<sup>d</sup>, Alphonse Maindo<sup>e</sup>, Heidi Mendoza<sup>f</sup>, Edi Purwanto<sup>g</sup>, Carlos Rodríguez<sup>h</sup>, Richard Ssemmanda<sup>i</sup>, Tran Nam Thang<sup>j</sup>, Roderick Zagt<sup>a</sup>

<sup>a</sup> Tropenbos International, Ede, the Netherlands

<sup>b</sup> Instituto Boliviano de Investigación Forestal, Santa Cruz de la Sierra, Bolivia

<sup>c</sup> Tropenbos Suriname, Paramaribo, Suriname

<sup>d</sup> The Pastoral and Environmental Network in the Horn of Africa, Ethiopia

<sup>e</sup> Tropenbos DR Congo, Kisangani, Democratic Republic of the Congo

<sup>f</sup> Forest Foundation Philippines, Makati City, the Philippines

<sup>g</sup> Tropenbos Indonesia, Bogor, Indonesia

<sup>h</sup> Tropenbos Colombia, Bogotá, Colombia

<sup>i</sup> Ecological Trends Alliance, Kampala, Uganda

<sup>j</sup> Tropenbos Viet Nam, Hue, Viet Nam

### ARTICLE INFO

#### Keywords:

Forest policy

Tenure

Customary rights

Indigenous peoples and local communities

Community forests

### ABSTRACT

The formalization of community forest tenure rights is expected to promote sustainable community forest management, and is seen as a way to combine objectives related to environmental conservation, livelihood improvement, and local self-determination. However, the formalization of forest tenure rights by itself, does not automatically result in the intended impacts. There is a need to better understand the conditions under which communities are able to use these rights to achieve positive outcomes across multiple dimensions. We formulated a simple theory of change that underlies the formalization of community forest tenure rights, and used it to assess the outcomes, bottlenecks and enabling conditions of community forest tenure models across the forested tropics. Based on this analysis, we identified ten conditions that need to be in place for community forest tenure rights formalization to achieve the intended impacts. The theory of change and associated conditions form a generic conceptual framework that can be used to inform policy and practice of actors supporting community forest tenure rights, including civil society organizations and government agencies.

### 1. Introduction

Since the 1800s, many governments have introduced forest and conservation policies that brought forest resources under state ownership, overruling the customary rights of the people who had been using and managing these forests for generations (Larson and Springer, 2016). Where they are designated as state property, forest areas may be granted to private or state-owned enterprises in the form of logging, mining or agricultural concessions, frequently in defiance of traditional tenure structures of people living in or near those forests (Ding et al., 2016). Likewise, governments can declare customary lands as protected areas, leading to conflicts, forced evictions, and the loss of livelihoods and

cultural identity (Garnett et al., 2018; Tauli-Corpuz et al., 2018).

In the 1980s, in response to criticism on such centralized approaches to forest management and forest conservation, an increasing number of governments initiated forest tenure reforms, to transfer forest tenure rights from the central government to local actors, known as forest rights devolution (Edmunds and Wollenberg, 2013; Ribot, 2003; Ribot and Larson, 2005). This process has also been referred to as the global forest tenure transition (Sunderlin, 2011). Contrary to agrarian reforms, forest reforms usually formalize the tenure rights of people who live in and around those forests, rather than redistributing the lands (Larson et al., 2019; Larson and Dahal, 2012). In the forested tropics, forest tenure reforms have often focused on the formalization of communities'

\* Corresponding author at: Horaplantsoen 12, 6717 LT, EDE, the Netherlands.

E-mail address: [r.g.a.boot@uu.nl](mailto:r.g.a.boot@uu.nl) (R. Boot).

<https://doi.org/10.1016/j.forpol.2022.102766>

Received 14 July 2021; Received in revised form 3 May 2022; Accepted 12 May 2022

Available online 30 May 2022

1389-9341/© 2022 Published by Elsevier B.V.

collective rights to forest resources, aimed at promoting community forest management (Duguma et al., 2018; Gilmour, 2016; Kumar, 2002; Siscawati et al., 2017). This typically implied granting partial rights, and thus resulted in co-governance arrangements between the government and communities. There have also been tenure reforms that went further, where communities received ownership titles over their territories, such as the Indigenous *resguardos* in Colombia (Ortiz-Guerrero et al., 2018) and *tierras comunitarias de origen* in Bolivia (Benneker, 2008).

A widely used concept for describing rights to land and natural resources is the ‘bundle of rights,’ which distinguishes between rights of access, withdrawal, management, exclusion and alienation (Schlager and Ostrom, 1992). A community forest tenure regime typically grants a community with access, withdrawal, management and exclusion rights for a delineated forest area. However, these rights may not equally cover all natural resources within that area (e.g., non-timber forest products, timber, and subsoil resources), and usually come with a number of conditions (e.g., duration of the right, management requirements and the need to obtain permits for the commercialization of resources). The Rights and Resources Initiative distinguishes between two broad categories of community forest tenure models: (i) areas *designated for* communities; and (ii) areas *owned by* communities (RRI, 2018). The first category refers to areas where the state formally recognizes the access, withdrawal, management and exclusion rights of a community to certain natural resources within a designated forest area through the issuance of a permit that is valid for a limited period of time. The second category refers to areas for which communities have received ownership rights, often based on ancestral claims, and without a time limit. Moreover, communities are entitled to due process and compensation in the face of potential extinguishment by the state of some or all of their rights (RRI, 2018).

An analysis of forest tenure data from 23 forested (sub)tropical countries that participate in the Forest Carbon Partnership Facility (FCPF) suggests that around 20% of the forests now have formally recognized land tenure rights for Indigenous and local communities (RRI, 2020). Much of this progress is relatively recent; between 2002 and 2017, the forest area that is legally recognized for communities grew by almost 40% (RRI, 2018). Many of these forest tenure reforms have been the result of pressure from local social movements and civil society organizations (CSOs), demanding the explicit recognition of traditional or ancestral forest tenure, often in the context of competing claims to lands and resources (Cronkleton et al., 2008; Larson and Springer, 2016). These local movements have been receiving back up from international organizations, and from international agreements such as the UN Declaration on the Rights of Indigenous Peoples and the FAO Voluntary Guidelines on the Responsible Governance of Tenure. Even though formal recognition of community forest tenure rights has increased over the last decades, the tenure provided by collective models is often less robust than tenure held by companies and smallholders (Aggarwal et al., 2021). Also, in the context of increased competition for rights and resources, there has been significant resistance and pushback, for example from economic and political lobbies to weaken protective legislations, aiming to open up forest areas for mining, industrial forestry and large-scale agriculture (Begotti and Peres, 2020).

The formalization of community forest tenure rights is commonly expected to contribute to improved management and conservation of forests, leading to preservation of biodiversity, sequestration of carbon, and regulation of water cycles, while also improving local livelihoods, including local food security and resilience to climate change (Lund et al., 2018; World Bank, 2019). Livelihood improvements can occur due to decreased risks of external actors' appropriation of forest resources, as well as due to increased income-earning opportunities through the development of community forest enterprises — the latter being the focus of many CSO interventions after rights have been formalized (Rainforest Alliance, 2021). Next to conservation and livelihood objectives, the formalization of collective forest tenure rights may be

promoted as a way to achieve social justice through increased self-determination of Indigenous peoples and local communities, based on their ancestral rights (Domínguez and Luoma, 2020; Perera, 2009). Different actors promoting the formalization of community forest tenure rights may have different ideas about priorities, but the general premise behind the push for the formalization of community forest tenure rights — implicitly or explicitly — is that it has the potential to contribute to conservation, livelihood and self-determination objectives simultaneously. In this article we therefore consider the formalization of community forest tenure rights to be ‘successful’ when it has positive conservation, livelihood and self-determination impacts.

Research shows that the relationship between tenure formalization and its expected impacts is not always straightforward. First, although there is evidence that forests in areas controlled by Indigenous peoples and local communities have relatively low deforestation rates (Ding et al., 2016; Pearce, 2016; Stevens et al., 2014; Walker et al., 2020), this does not imply that forest tenure rights formalization automatically results in forest conservation, as a number of other factors may be into play (Buntaine et al., 2014; Ferretti-Gallon and Busch, 2014; Kraus et al., 2021; Seymour et al., 2014). Second, forest tenure rights formalization does not automatically result in livelihood improvements (De Royer et al., 2018; Duguma et al., 2018; Larson et al., 2019). Reasons for this may include a lack of technical and financial support after rights have been granted, and government-imposed restrictions that hamper people's economic opportunities. Third, tenure rights formalization can have unintended outcomes, such as conflicts related to the delineation of boundaries (Dewi, 2016; Larson et al., 2015; Naughton-Treves and Day, 2012), or increased inequality, for example when local elites take advantage of the formalization process by strengthening their control over forest resources at the expense of other community members (Essoungong et al., 2019; Gnych et al., 2018; Krantz, 2018; Larson and Springer, 2016; McDermott and Schreckenberg, 2009; Persha and Andersson, 2014). Fourth, forest tenure rights devolution can result in trade-offs between conservation, livelihood and self-determination outcomes (Charnley and Poe, 2007; Cronkleton et al., 2012; Hajjar et al., 2021; Ribot et al., 2006). For example, rights formalization may come with regulations that limit people's access to natural resources, restricting economic opportunities and reducing de facto self-determination (Hajjar et al., 2021; Larson and Pulhin, 2012).

Despite the many challenges and possible trade-offs, the strengthening of community forest tenure rights remains a key component of efforts to achieve goals related to sustainable forest management, mitigating climate change, and improving local livelihoods (Aggarwal et al., 2021). To live up to the potential, there is a need to better understand the conditions under which the formalization of community forest tenure rights has positive outcomes across multiple dimensions, and to clarify the theories of change that underlie policies and interventions promoting forest tenure rights formalization and community forest management (Hajjar et al., 2021). In this article, we propose such a theory of change, and identify ten associated conditions that need to be in place for the formalization of community forest tenure rights to contribute to the intended impacts. We assert that this can be used as a basic learning and monitoring framework across many different tenure regimes, which could help with assessing the impact of forest tenure reforms and identifying strategies to increase their effectiveness. The framework is one of the outcomes of a cross-country review of community forest tenure rights, conducted as part of an international development programme. Below we first provide some background to this review, and the tenure models that were included. After that, we present the theory of change and its associated conditions, followed by a short discussion on the possible applications of the framework.

## 2. Community forest tenure rights review

### 2.1. Review process

This article is based on a review conducted as part of an international development programme that supported several CSOs in Asia, Africa and South America to contribute to sustainable and inclusive governance of forested landscapes. The programme ran between 2016 and 2020. One of its core assumptions was that local control over forest land and resources contributes to conservation and development objectives. Many of the CSOs supported by the programme were, in one way or another, helping communities with implementing community forest tenure models, for example by assisting them with application processes, and by developing livelihood opportunities through community forestry enterprises. Towards the end of the programme, a cross-country review was initiated, to learn from the experiences in the various countries. The objective was to help national CSOs to reflect on the outcomes and bottlenecks of community forest tenure models and identify ways to improve CSO strategies.

First, based on a review of scientific literature and interviews with international experts, a theory of change was developed, identifying the pathways through which formalization of community forest tenure rights can contribute to intended impacts (Kusters and de Graaf, 2019). The theory of change was then used as an analytical framework to assess specific community forest tenure models in Indonesia, the Philippines, Viet Nam, DR Congo, Liberia, Uganda, Bolivia, Colombia and Suriname. Each assessment was conducted by a national case expert with extensive knowledge about the tenure model. The case experts adapted the overall analytical framework to fit the national context and experience, and to reflect specific interests of the participating CSOs. Each expert then interviewed key informants representing communities, CSOs, government agencies and academia. These interviews were used to discuss and document how the respondents perceive the outcomes of the tenure model, as well as bottlenecks to achieve the intended outcomes and impacts. After that, national workshops were organized, where CSO representatives discussed ways to improve their strategies related to community forest rights. Finally, all case experts documented the findings and recommendations in country-level assessment reports and briefing papers (Allen et al., 2020; Ascarrunz et al., 2020; FFP, 2020; Giang and Thang, 2020; Santoso and Purwanto, 2020; Ssemmanda et al., 2020; Van der Hammen and Rodríguez, 2020; Van Kanten and Razab-Sekh, 2020; Yiah, 2020).

After the national assessments, we reviewed the assessment reports and briefing papers, looking for commonalities in outcomes, and factors influencing those outcomes. Based on this, we identified at least one bottleneck for each step in the theory of change, which were then translated into key conditions for success. As a last step, the conditions were discussed and validated with representatives of the CSOs that had participated in the assessments.

### 2.2. Features of the tenure models included in the review

The review focussed on forest tenure models that assign a set of rights to a community, represented by traditional authorities, forest user groups, or management committees (Table 1). Within a community, arrangements may exist that assign certain forest user rights within the community forest to individuals or households, but we did not explore these. The focus has thus been on the formalization of collective rights. The models assessed in Indonesia, the Philippines, Viet Nam, Liberia, Uganda and Suriname designate a certain forest area to a community for a limited period of time (with options for renewal), and therefore fall in the 'designated' category, as defined by the RRI (RRI, 2018). The community forest concession model in DR Congo falls in the 'ownership' category, because communities receive these rights in perpetuity and are entitled to due process and compensation. In Bolivia and Colombia, the review focussed on Indigenous territories (encompassing forest and non-

**Table 1**

Features of the tenure models assessed and study characteristics<sup>a</sup>.

Country	Tenure model	Type	# Informants
Indonesia	Village Forest	Designated (35 years)	30
Philippines	Community Based Forest Management Agreement	Designated (25 years)	33
Viet Nam	Forest Land Allocation	Designated (50 years)	43
DR Congo	Local Community Forest Concession	Ownership	46
Liberia	Community Forest Management Agreement	Designated (15 years)	33
Uganda	Collaborative Forest Management Agreement	Designated (10 years)	38
Bolivia	Indigenous Territory	Ownership	39
Colombia	Indigenous Territory	Ownership	39
Suriname	Community Forest	Designated (10 years)	58

<sup>a</sup> Tenure models in the 'designated' category are valid for a limited time, but often have an option for renewal.

forest areas), where inhabitants have perpetual user rights over the forest resources within their territory for subsistence purposes. Communities may also make commercial use of forest products, but need approved forest management plans to get harvesting permits (this is common in Bolivia, but not in Colombia).

In most of the models included in the review, communities tend to manage the forest themselves. Common activities are the collection of non-timber forest products (NTFPs), agroforestry and restoration of degraded areas. Sometimes communities are involved in payments for environmental services (PES) schemes as well. Although a model may allow logging, governments usually impose strict regulations for timber harvesting, which require investments and specialized managerial and technological capacities. As a result, communities under these models are rarely operating commercial logging activities themselves. Under the assessed tenure models in Bolivia, Liberia and Suriname, communities have been entering into contracts with logging companies, allowing the company to harvest timber from the community forest area, for which the community gets paid.

### 2.3. Limitations of the approach

The review was not designed as a scientific study. Instead, its prime objective was to help CSOs that participated in an international development programme to reflect on community forest tenure rights and improve their related strategies. After this, we used the insights from the national assessments to identify common conditions for 'successful' community forest tenure rights formalization. This approach comes with the following caveats:

- (1) There are limits to the comparability of the assessment results between countries. The case experts were provided with a general manual to guide national assessments, but then adapted it to the national context and interests of the participating CSO. As a result, the country assessments differ in terms of focus and level of detail, making it impossible to conduct a quantitative comparison.
- (2) Each assessment was based on key informants' perceptions related to a national tenure model and its local implementation. We chose to apply a country-wide lens, to get a broader overview. This thus resulted in a high level analysis, with limited attention to variations that may exist within the same model.
- (3) The assessment manual drew attention to potential impacts in terms of increased self-determination and social justice, but none of the case experts explored these in greater depth. Many of the models do not explicitly mention self-determination as a formal

objective (with the exception of those assessed in Colombia, Bolivia, and Suriname), and case experts may have found the issue politically sensitive. As a result, matters related to (perceptions of) self-determination and social justice have received less attention than those related to livelihood and conservation objectives.

- (4) The analytical framework paid little attention to biophysical characteristics, and consequently these remain underrepresented in this article.
- (5) As part of the international development programme within which the review was conducted, many CSOs focussed on formalizing community forest tenure in combination with supporting community forestry enterprises. The review may therefore be biased towards commercial community forestry activities.

### 3. Theory of change

Reforms to devolve forest tenure rights generally start with national legislation that makes it possible for Indigenous and local communities to formally acquire certain rights to forests. The existence of such legislation does not automatically mean that rights on the ground are secured, as communities first have to go through an administrative process to apply for, and register the specific rights. After formalized rights are established, several change processes may be set in motion, which, in theory, could lead to the intended impacts, in terms of conservation, livelihoods and self-determination (Fig. 1). In the next section we outline the expected short- and long-term outcomes of rights formalization. After that, we will present the conditions that need to be in place for these changes to take place.

#### 3.1. Expected short-term outcomes

At the level of the community, we distinguish between three expected short-term outcomes of forest tenure rights formalization. First, the community will have increased tenure security over forest resources. Tenure security can be defined as the ability to appropriate resources on a continuous basis, free from imposition, dispute or approbation from outside sources (Mwangi and Meinzen-Dick, 2009). Rights formalization legally validates communities' entitlements to forest resources. This implies, in theory at least, that there are legal repercussions for external

parties that infringe on the communities' rights.

Second, the community may have greater access to external support for forest management, provided by governments, CSOs and financial institutions, such as technical support, capacity building and financial credit. Moreover, having a formal title may attract companies that want to invest in community-based production activities, since it decreases the risk of competing claims and conflicts (Cronkleton et al., 2017; McLain et al., 2021).

Third, the community is expected to be in a better position to collectively govern their use and management. This is because formalization of community forest tenure rights implies the legitimization of a community-based decision-making body. This body may already exist (e.g., customary leadership), or can be newly established (e.g., a forest management committee), and will be legally entitled to make decisions about the way the forest is managed (usually within a regulatory framework set by the government). External actors are legally required to respect these decisions. Ideally, this will strengthen the position of the community to exercise self-governance, resulting in forest management decisions that suit the culture and needs of community members (Agrawal, 2001).

#### 3.2. Expected long-term outcomes

The short-term outcomes described above are expected to contribute to two long-term outcomes. First, increased tenure security will enable a community to halt or reduce land invasions, extraction of forest resources and forest conversion by external actors (Holden et al., 2013; Lawry et al., 2017).

Second, tenure security — in combination with increased access to external support and incentives, and improved ability to self-govern — is expected to encourage stewardship over the forest, leading to maintained or enhanced sustainable and viable forest management (Larson and Springer, 2016). The rationale is that local communities have a vested interest in sustainable management (so they can maintain resource flows over time) and are better equipped to do so than central governments (Lund et al., 2018). In some cases, reducing the risk of expropriation means that communities are now able to continue long-standing customary traditions of sustainable forest management (Berkes, 2017; Johnson, 2004; Ormsby and Bhagwat, 2010). In other cases, tenure security incentivises communities to transition to more

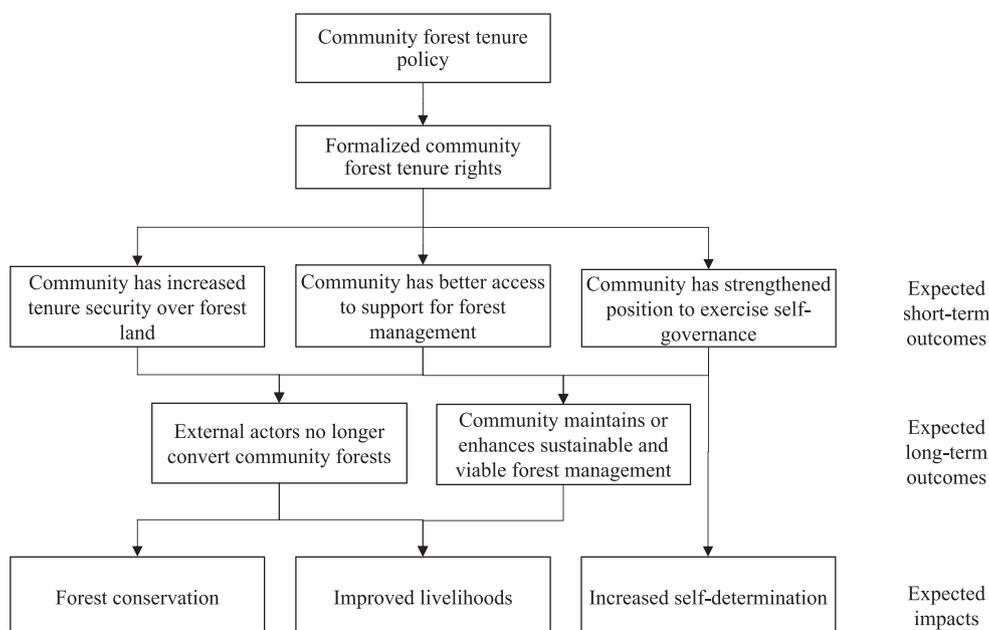


Fig. 1. Theory of change underlying community forest tenure rights formalization.

active forest management, which is expected to contribute to local economic development (Badini et al., 2018; De Jong, 2012; Pagdee et al., 2006).

#### 4. Conditions

The results of the review stress that the outcomes of community forest tenure rights formalization are influenced by the characteristics of the formalization process, as well as by the existence of bottlenecks and enabling conditions in the external context, after the rights have been formalized. Synthesizing the results of the country-level assessment reports and workshops, we identified bottlenecks for each of the expected change processes as described in the theory of change — from policy design at the national level, to the expected long-term outcomes at the community level. The focus was on conditions that can be influenced by CSOs, either through direct interventions or lobby and advocacy (the review did not explicitly explore conditions to move from long-term outcomes to impacts, as these were considered mostly outside of the sphere of influence of CSOs). We then translated these into ten general conditions that need to be in place to make the theory of change more likely to work out in practice. Although these conditions have all been widely discussed in literature (Gilmour, 2016; Hajjar et al., 2021; Macqueen, 2013; Pagdee et al., 2006), we hope to add value, by presenting them as part of a coherent theory of change that can help guide design and evaluation of policies and CSO interventions (Fig. 2). Below we shortly elaborate on each condition, including examples from the cases included in the review. We also add some references to publications that make similar arguments.

##### 4.1. Simple administrative procedures for rights formalization

After the passing of a law or regulation that allows for the devolution of collective forest tenure rights to communities, implementation at the local level is often slow. It usually requires the demarcation of land and registration of rights (in the form of a title or a certificate), which involves complex requirements for approval and the preparation of technical management plans. It may also require conflict resolution when there are overlapping claims. More often than not, communities need external assistance to go through the process. To ease the

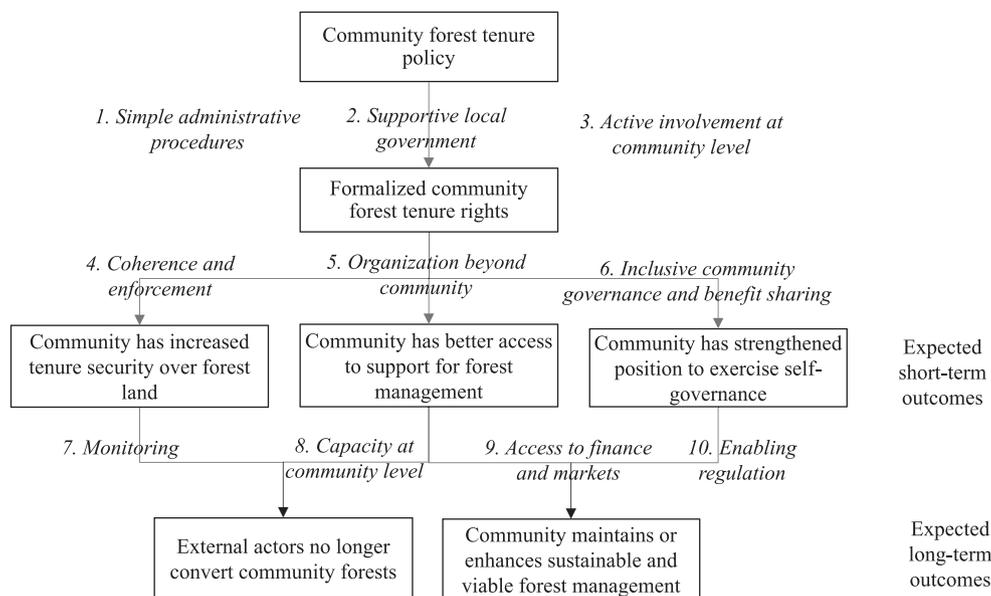
implementation of forest tenure reforms, and reduce communities' dependence on outside support, simpler procedures are required. One of the ways to do this, is by replacing detailed planning conditions with a 'minimal standards' approach that allows for decision-making by local actors, without having to go through time-consuming administrative processes at the national level (Cronkleton et al., 2012; Notess et al., 2018).

##### 4.2. All levels of government support rights devolution

National governments are generally responsible for defining the policies that allow for the formalization of collective forest tenure rights, while local governments are often responsible for their implementation. However, government officials may be reluctant to relinquish control over forests, even where they are required to do so under the regulatory framework. In DR Congo, for example, the registration of community forest concessions was actively obstructed by local government officials who were afraid to lose influence and access to resources. Moreover, in many countries the relationship between local government officials and communities is characterized by tensions and conflicts. To effectively implement community forest tenure policies, national governments need to support the involvement of local governments in the elaboration of implementation plans and offer the necessary training and institutional back-up. Furthermore, governments will need to adopt a facilitative, rather than a top-down approach. This is a transformation that may require a change in the organizational culture, as well as efforts to increase the capacity of government staff, so they are better equipped to engage in collaborative arrangements with communities (Banjade et al., 2017).

##### 4.3. Active involvement at community level in formalization processes

One of the main impediments to the successful devolution of rights is the lack of deliberation with local stakeholders. Actors at the community level may experience formalization as a top-down process, when boundaries and regulations are installed without their consultation. The consequence is that locally specific contexts and needs are not taken into account. In Indonesia, Viet Nam and Suriname, for example, it was mentioned that boundaries of community forests do often not coincide



\* Some of the conditions apply to more than one outcome

Fig. 2. Theory of change and key conditions for community forest tenure rights formalization to achieve intended long-term outcomes.

with the boundaries of the forest they traditionally use and manage. To prevent such problems, formalization processes need to have room for negotiations and dialogue between the government and community representatives. Delineation processes ideally include representatives of different groups within the community, as well as members of neighbouring communities, and there should be possibilities to adjust certain components of the tenure model to the local context. The government should thus find a balance between pre-defining clear rules and regulations while also allowing and empowering local communities to co-develop elements of the tenure model. This can be done by ensuring that regulations contain key principles (e.g. benefit sharing and safeguard mechanisms), while allowing communities to translate these principles into locally appropriate systems (De Royer et al., 2018; Dewi, 2016; Knight et al., 2012).

#### 4.4. Policy coherence and enforcement of rights

When there is no coherence between (the implementation of) various regulations and policies related to forest tenure rights, communities run the risk of losing access to their forest resources, despite having formalized rights. In Indonesia, for example, there were cases where community forest areas overlapped with commercial concession permits, while in the Philippines, there have been instances where different types of community forest tenure models overlapped. Such situations can occur when there is a lack of coordination between the government agencies in charge of the various tenure models and concession permits, or when those agencies are involved in a power struggle. There is thus a need for more coherence among forest tenure policies and regulations, and their implementation, in order to prevent that they contradict or work against each other (ClientEarth, 2020; Harahap et al., 2017). Another factor that decreases communities' tenure security, is the lack of enforcement of their exclusion rights, both from the side of the government, and from within communities themselves. Government authorities and communities should therefore be willing and able to invest in the enforcement of rights, and install adequate procedures for conflict resolution, when rights are being violated (Banana and Gombya-Ssembajwe, 2000; Van der Zon, 2021).

#### 4.5. Organization beyond community

Communities tend to have limited political capital. This means they are not able to exert influence on government actors to change regulations that hamper communities' possibilities to develop sustainable and viable forestry activities, such as the requirement to acquire costly permits to harvest or trade certain forest products. Likewise, communities tend to have limited negotiation power when dealing with more powerful outside actors, such as commercial companies. In Bolivia, Liberia and Suriname — where communities often enter into agreements with companies, allowing them to log within their community forests — respondents mentioned that the lack of negotiation power often results in agreements that are unfavourable for communities. The power balance may change when community governance institutions organize themselves in (or are represented by) larger structures at sub-national or national level, e.g., in the form of networks, alliances, associations or federations. Such umbrella organizations increase the political weight of community forestry groups vis-à-vis the government and other stakeholders. They can lobby for improvements to the regulatory framework, raise public support for community rights, increase the government's accountability and responsiveness, and provide services to their members, while they may also improve communities' negotiation position in their dealings with external actors. However, organization beyond the community level seldom happens spontaneously, and often depends on CSO support (Pasicznic et al., 2015; Paudel et al., 2012).

#### 4.6. Inclusive community governance and benefit-sharing

Formalization of community forest tenure rights usually implies the legitimization of a community-based decision-making body, e.g., in the form of customary leadership or a forest management committee. Most assessments included in our review revealed challenges related to community governance, for example due to elite capture (in the Philippines, Bolivia and Suriname), and tensions between formal and customary governance systems, leading to intra-community conflicts (in Indonesia, Liberia and DR Congo). Across the board, women tend to be underrepresented in governance bodies, and in many cases, youth do not show much interest to participate. Also, interventions supporting community forestry may assume communities as homogenous entities, which means that risks of elite capture, internal conflicts and inequality, are not sufficiently recognized. Respondents in our review stressed that such risks can be reduced by deliberate efforts to promote inclusive community forest governance, so that community members can influence decisions regarding the management (and benefits) of community forests. This may require a balancing act. On the one hand it is crucial to start from local practices, and build on existing customary governance systems. On the other hand, there may be a need to challenge those existing systems, to increase transparency and accountability of leadership, and to facilitate dialogue and negotiations within communities, as there may be differences in interests and priorities, for example along lines of gender, age and ethnicity. Experiences in Bolivia show that inclusive governance is particularly difficult to achieve when there are power imbalances or when areas are contested, stressing the importance of clear internal regulations and authorities that oversee compliance with those regulations. Literature on community forest tenure rights also stresses the importance of inclusive governance, as well as its many challenges (Baynes et al., 2015; Gnych et al., 2018; Krantz, 2018; Larson et al., 2015; Larson and Springer, 2016; McDermott and Schreckenberg, 2009).

#### 4.7. Monitoring of land-use changes and resource extraction

Formalized community forest tenure rights usually come with regulations intended to prevent forest clearance and unsustainable forest use, by external actors as well as by community members themselves. However, enforcing these regulations is difficult, especially when there is no adequate monitoring of land-use changes and resource extraction. Monitoring responsibilities may be shared between government and communities, but this can create tensions. According to Filipino respondents, the government does not offer community members sufficient compensation for monitoring activities, and fails to put in place safeguards to ensure the safety of forest guards and their families, when they enter into conflicts with perpetrators. Respondents in Liberia and Suriname stressed that the government agencies responsible for monitoring were neither effective nor transparent. Deficient monitoring may result in a situation where actors take advantage, leading to de facto open access. In such cases, better monitoring is needed, to check whether rights are upheld and respected, and to call attention to cases where rights are violated. The results can be used to hold stakeholders accountable, and to use as evidence when turning to the legal system. Monitoring is thought to be especially effective when it is community-led, not least because the communities' proximity to the forest resources makes them better able to monitor for illegal uses than government agencies are. However, effective community-led monitoring usually requires strong government backup, because illegal activities in community forests may be related to powerful actors, such as politicians, the military, guerrillas, and criminal groups (Gibson, 2001).

#### 4.8. Capacity at community level to benefit from new opportunities

Community forest tenure rights formalization often creates expectations of economic benefits through commercialization. In some cases,

communities enter into community-company partnerships, while in other cases they establish their own community forestry enterprises. In both cases, communities will require specific knowledge and skills, as well as a certain level of organizational capacity, to optimally benefit from commercialization. This is often lacking. Respondents in Suriname, for example, argued that community leaders do not have the negotiation skills to deal with private companies that want to log community forests, and are not able to recognize the risks in the proposed agreements with third parties. In other cases, community forest user groups face difficulties with developing management plans, setting up forestry or agroforestry activities (e.g., nursery establishment), applying for permits, or sharing benefits within the community. Increasing communities' capacity to develop commercially viable forest management will thus require access to different types of knowledge and skills, such as those related to planning, production, post-production, legal and financial literacy, marketing, negotiations, administration and benefit sharing (Gilmour, 2016; Macqueen, 2013).

#### 4.9. Access to finance and markets

A forest user group that aspires to operate a community-based enterprise (e.g., in trading forest products or tourism), needs financial capital to set up the business, purchase the necessary equipment, and invest in training and marketing. However, access to finance is often a major bottleneck. In Bolivia, respondents argued that communities' lack of access to credit prevents them from developing their own forestry enterprises, and exacerbates their dependence on private companies, who have the financial capital to invest in logging operations. Banks and other financiers are typically hesitant to provide loans to community-based forestry enterprises, because such loans are considered risky. Often, financial institutions have little knowledge of such enterprises, and no mechanisms in place to offer financial services to communities or user groups. In some cases, banks have had negative experiences with providing loans to community-based forestry enterprises, as the community groups did not understand the conditions, and failed to pay back. Increasing local actors' access to finance requires local-level financial institutions to adjust their lending criteria and regulations, while also strengthening the financial literacy at the community level. Innovative financing mechanisms can help to de-risk such investments (Louman et al., 2020). Another bottleneck for communities is that they have neither the capacity to produce in large quantities, nor adequate transportation means to bring produce to the market. To gain access to markets, communities may need to negotiate agreements with intermediaries or engage in partnerships with companies, preferably those that operate in socially responsible value chains, to reduce the risk of exploitation and to promote fair trade (Macqueen et al., 2018).

#### 4.10. Regulation that enables sustainable community forestry

Onerous procedures and unclear regulations often disadvantage communities. For example, forest user groups in Viet Nam, Indonesia and Bolivia are not able to comply with timber management regulations, as these tend to involve technical and administrative requirements that were originally designed for logging companies and were not adapted to the circumstances of communities. In DR Congo, respondents pointed at cases where the government had been levying unduly high taxes on community timber sales, without a reliable basis of calculation. Other examples of regulations that function as barriers include the obligation to develop elaborate forest management plans, fees that need to be paid for the registration of rights and trade licenses, and the limited duration of community forest permits. For communities to benefit from formalized forest tenure rights, regulatory barriers need to be removed as much as possible. Taking away obstructions is key to help communities develop forestry enterprises. Generally speaking, the regulatory framework is more likely to promote sustainable and viable community-based forest management when it is enabling rather than prohibitive

(ClientEarth, 2020).

## 5. Discussion

We developed a theory of change depicting the possible impact pathways between the formalization of community forest tenure rights and objectives in terms of conservation, livelihood improvement and self-determination, and then identified ten associated conditions that need to be in place for the theory of change to become practice. The conditions, in turn, are influenced by power relations between (and among) communities, CSOs, government agencies and private sector actors. These power relations are often not in favour of communities. In the context of high and increasing competition for resources, powerful actors may oppose the devolution of forest rights and obstruct the attempts of communities to benefit from forest rights formalization. We therefore stress that the framework presented in this article should be seen in a political-ecological context of underlying power relations.

Our framework complements previous attempts to structure conditions for community-based natural resource management, such as Ostrom's eight principles for community institutions to govern common-pool resources (Ostrom, 1990), Gilmour's six 'keys' to effective community-based forestry (Gilmour, 2016), Macqueen's three enabling conditions for community forest enterprises (Macqueen, 2013), ClientEarth's ten thematic areas for legal frameworks for community forestry (ClientEarth, 2020) and the Rainforest Alliance's integrated community forest management (ICFM) pathway (Rainforest Alliance, 2021). Although we realize that the framework presented in this article reflects some of our own biases (e.g. towards community forestry enterprises), we believe that it adds value to the aforementioned works, by focussing on both pre-formalization and post-formalization conditions, and by connecting those to a generic theory of change.

We argue that government agencies and CSOs have a role to play in shaping the ten conditions for success, for example by improving policies and through practical support for communities. At the landscape level, the framework could be used to develop and organize programmes involving multiple organizations. More specifically, it could be used for scoping exercises, to see where the gaps are, and identify conditions that need more attention. These may function as leverage points to improve the outcomes of community forest tenure rights formalization. The framework can also be used to help stakeholders to reflect on the outcomes of community forest tenure rights formalization and the possible trade-offs. Rather than a robust theoretical model, it is a flexible framework, which can be further adjusted and expanded. As self-determination can be a key motivation for CSOs and communities to demand forest tenure rights formalization, it may be particularly relevant to identify additional outcomes and conditions related to this.

All too often, formalization of rights is seen as a silver bullet, without due attention to contextual factors, and based on ideas of communities as homogenous entities. We believe that the framework presented in this paper helps with drawing attention to the contextual bottlenecks and conditions — both internal and external to communities — that influence the extent to which formalized community forest tenure rights contribute to forest conservation, livelihood improvement and self-determination. The call for tenure rights formalization is important, but it should be complemented with attention to these conditions for success, to ensure that communities can claim their rights, and benefit from them.

## Funding

This work was supported by the Ministry of Foreign Affairs of the Netherlands, as part of the Green Livelihoods Alliance strategic partnership. The funder had no involvement in the study design.

## CRedit authorship contribution statement

**Koen Kusters:** Conceptualization, Methodology, Formal analysis, Writing – original draft. **Maartje de Graaf:** Conceptualization, Methodology, Project administration, Formal analysis, Writing – review & editing. **Nataly Ascarrunz:** Investigation, Writing – review & editing. **Charlotte Benneker:** Writing – review & editing. **René Boot:** Supervision, Writing – review & editing. **Rudi van Kantén:** Investigation, Writing – review & editing. **John Livingstone:** Writing – review & editing. **Alphonse Maindo:** Investigation, Writing – review & editing. **Heidi Mendoza:** Investigation, Writing – review & editing. **Edi Purwanto:** Investigation, Writing – review & editing. **Carlos Rodríguez:** Investigation, Writing – review & editing. **Richard Ssemmanda:** Investigation, Writing – review & editing. **Tran Nam Thang:** Investigation, Writing – review & editing. **Roderick Zagt:** Conceptualization, Supervision, Writing – review & editing.

## Declaration of Competing Interest

None.

## Acknowledgements

The authors wish to thank the national consultants, and all other people who participated in the community forest rights review.

## References

- Aggarwal, S., Larson, A., McDermott, C., Katila, P., Giessen, L., 2021. Tenure reform for better forestry: an unfinished policy agenda. *Forest Policy Econ.* 123, 102376 <https://doi.org/10.1016/j.forpol.2020.102376>.
- Agrawal, A., 2001. Common property institutions and sustainable governance of resources. *World Dev.* 29, 1649–1672.
- Allen, F., Ojo, G.U., Offiong, R.A., 2020. Community Forest Rights in Nigeria — Recommendations for CSOs. *Environmental Rights Action / Tropenbos International, Benin City / Wageningen*.
- Ascarrunz, N., Angulo, A.R., Serrano, A.B., Benneker, C., 2020. Forest Management in Bolivian Indigenous Territories — Recommendations for CSOs. *Instituto Boliviano de Investigación Forestal / Tropenbos International, Santa Cruz / Wageningen*.
- Badini, O.S., Hajjar, R., Kozak, R., 2018. Critical success factors for small and medium forest enterprises: a review. *Forest Policy Econ.* 94, 35–45.
- Banana, A.Y., Gombya-Ssembajwe, W., 2000. Successful forest management: The importance of security of tenure and rule enforcement in Ugandan forests. In: McKean, C.C., Gibson, M.A., Ostrom, E. (Eds.), *People and Forests: Communities, Institutions, and Governance*. MIT Press, London.
- Banjade, M.R., Paudel, N.S., Mwangi, E., 2017. Political economy of forest tenure reform implementation in Nepal: evolution, contestation, outcomes and challenges. *J. For. Livelihood* 15, 1–14.
- Baynes, J., Herbohn, J., Smith, C., Fisher, R., Bray, D., 2015. Key factors which influence the success of community forestry in developing countries. *Glob. Environ. Chang.* 35, 226–238.
- Begotti, R.A., Peres, C.A., 2020. Rapidly escalating threats to the biodiversity and ethnocultural capital of Brazilian indigenous lands. *Land Use Policy* 96, 104694. <https://doi.org/10.1016/j.landusepol.2020.104694>.
- Benneker, C.E.B., 2008. Dealing with the State, the Market and NGOs: The Impact of Institutions on the Constitution and Performance of Community Forest Enterprises (CFE) in the Lowlands of Bolivia (PhD Thesis). Wageningen University, Wageningen.
- Berkes, F., 2017. *Sacred Ecology*. Routledge, New York.
- Buntaine, M.T., Hamilton, S.E., Millones, M., 2014. Titling community land to prevent deforestation: no reduction in forest loss in Morona-Santiago. Ecuador. *Glob. Environ. Change* 2, 39.
- Charmley, S., Poe, M.R., 2007. Community forestry in theory and practice: where are we now? *Annu. Rev. Anthropol.* 36, 301–336.
- ClientEarth, 2020. *Communities at the Heart of Forest Management: How Can the Law Make a Difference? Sharing Lessons from Nepal, the Philippines and Tanzania*. ClientEarth, London.
- Cronkleton, P., Taylor, P.L., Barry, D., Stone-Jovicich, S., Schmink, M., 2008. *Environmental Governance and the Emergence of Forest-Based Social Movements*. Center for International Forestry Research, Bogor.
- Cronkleton, P., Pulhin, J.M., Saigal, S., 2012. Co-management in community forestry: how the partial devolution of management rights creates challenges for forest communities. *Conserv. Soc.* 10, 91–102.
- Cronkleton, P., Artati, Y., Baral, H., Paudyal, K., Banjane, M.R., Liu, J.L., Tu, T.Y., Putzel, L., Bihane, E., Kassa, H., 2017. How do property rights reforms provide incentives for forest landscape restoration? Comparing evidence from Nepal, China and Ethiopia. *Int. For. Rev.* 19, 8–23.
- De Jong, W., 2012. Discourses of community forestry. In: *Forest-People Interfaces*. Wageningen Academic Publishers, Wageningen, pp. 107–120.
- De Royer, S., Van Noordwijk, M., Roshetko, J.M., 2018. Does community-based forest management in Indonesia devolve social justice or social costs? *Int. For. Rev.* 20, 167–180.
- Dewi, R., 2016. Gaining recognition through participatory mapping? The role of adat land in the implementation of the Merauke integrated food and energy Estate in Papua, Indonesia. *ASEAS-Austr. J. South-East Asian Stud.* 9, 87–105.
- Ding, H., Veit, P., Blackman, A., Gray, E., Reyntar, K., Altamirano, J.C., Hodgdon, B., 2016. Climate Benefits, Tenure Costs: The Economic Case for Securing Indigenous Land Rights in the Amazon. *World Resources Institute, Washington, DC*.
- Domínguez, L., Luoma, C., 2020. Decolonising conservation policy: how colonial land and conservation ideologies persist and perpetuate indigenous injustices at the expense of the environment. *Land* 9, 65.
- Duguma, L.A., Minang, P.A., Foundjem-Tita, D., Makui, P., Piabuo, S.M., 2018. Prioritizing enablers for effective community forestry in Cameroon. *Ecol. Soc.* 23.
- Edmunds, D., Wollenberg, E. (Eds.), 2013. *Local Forest Management: The Impacts of Devolution Policies*. Earthscan, London.
- Essoungong, U.P.K., Foundjem-Tita, D., Minang, P.A., 2019. Addressing equity in community forestry: Lessons from 20 years of implementation in Cameroon. *Ecol. Soc.* 24.
- Ferretti-Gallon, K., Busch, J., 2014. What Drives Deforestation and What Stops it? A meta-Analysis of Spatially Explicit Econometric Studies, CGD Working Paper 361. Center for Global Development, Washington, DC.
- FFP, 2020. Empowering both Forests and its Communities by Strengthening the Philippines' CBFM Strategy. *Forest Foundation Philippines (FFP), Makati*.
- Garnett, S.T., Burgess, N.D., Fa, J.E., Fernández-Llamazares, Á., Molnár, Z., Robinson, C. J., Watson, J.E., Zander, K.K., Austin, B., Brondizio, E.S., 2018. A spatial overview of the global importance of indigenous lands for conservation. *Nat. Sustain.* 1, 369–374.
- Giang, P.T., Thang, T.N., 2020. *Forest Land Allocation to Communities in Viet Nam — Recommendations for CSOs*. Tropenbos Viet Nam / Tropenbos International, Hue City / Wageningen.
- Gibson, C.C., 2001. Forest resources: Institutions for local governance in Guatemala. In: Burger, J., Ostrom, E., Norgaard, R., Policansky, D., Goldstein, B.D. (Eds.), *Protecting the Commons: A Framework for Resource Management in the Americas*. Island Press, Washington, DC, pp. 71–89.
- Gilmour, D., 2016. Forty Years of Community-Based Forestry: A Review of its Extent and Effectiveness. *Food and Agriculture Organization of the United Nations, Rome*.
- Gnych, S., Lawry, S., Monterroso, I., Adhikary, A., 2018. Common benefits: Is community tenure facilitating investment in the commons for inclusive and sustainable development? In: *Land Governance in and Interconnected World*. Presented at the World Bank Conference on Land and Property, Washington, DC, Washington, DC.
- Hajjar, R., Oldekop, J.A., Cronkleton, P., Newton, P., Russell, A.J., Zhou, W., 2021. A global analysis of the social and environmental outcomes of community forests. *Nat. Sustain.* 4, 216–224.
- Harahap, F., Silveira, S., Khatiwada, D., 2017. Land allocation to meet sectoral goals in Indonesia—an analysis of policy coherence. *Land Use Policy* 61, 451–465.
- Holden, S., Otsuka, K., Deininger, K., 2013. *Land Tenure Reform in Asia and Africa: Assessing Impacts on Poverty and Natural Resource Management*. Springer, New York.
- Johnson, C., 2004. Uncommon ground: the 'poverty of history' in common property discourse. *Dev. Chang.* 35, 407–434.
- Knight, R., Adoko, J., Siakor, A., Salamo, A., Auma, T., Kaba, B., Tankar, I., 2012. *Protecting Community Lands and Resources: Evidence from Liberia, Mozambique and Uganda*. Namati and International Development Law Organization (IDLO), Rome.
- Krantz, L., 2018. Applying a Community-Based Approach to Tenure Formalization. A Case Study from Northern Mozambique. Working papers in Human Geography. Department of Economy and Society, Göteborg University, Göteborg.
- Kraus, S., Liu, J., Koch, N., Fuss, S., 2021. No aggregate deforestation reductions from rollout of community land titles in Indonesia yet. *PNAS* 118. <https://doi.org/10.1073/pnas.2100741118>.
- Kumar, S., 2002. Does "participation" in common pool resource management help the poor? A social cost–benefit analysis of joint forest management in Jharkhand, India. *World Dev.* 30, 763–782.
- Kusters, K., de Graaf, M., 2019. *Formalizing Community Rights to Forests: Expectations, Outcomes and Conditions for Success*. Tropenbos International, Wageningen, the Netherlands.
- Larson, A.M., Dahal, G.R., 2012. Introduction: forest tenure reform: new resource rights for forest-based communities? *Conserv. Soc.* 10, 77–90.
- Larson, A., Pulhin, J., 2012. Enhancing forest tenure reforms through more responsive regulations. *Conserv. Soc.* 10, 103. <https://doi.org/10.4103/0972-4923.97482>.
- Larson, A.M., Springer, J., 2016. *Recognition and Respect for Tenure Rights*. International Union for Conservation of Nature and Natural Resources (IUCN), Gland, Switzerland.
- Larson, A.M., Cronkleton, P.J., Pulhin, J.M., 2015. Formalizing indigenous commons: the role of 'authority' in the formation of territories in Nicaragua, Bolivia, and the Philippines. *World Dev.* 70, 228–238. <https://doi.org/10.1016/j.worlddev.2015.02.004>.
- Larson, A.M., Monterroso, I., Liswanti, N., Herawati, T., Banana, A., Cantuarias, P., Rivera, K., Mwangi, E., 2019. Models for Formalizing Customary and Community Forest Lands. Center for International Forestry Research, Bogor.
- Lawry, S., Samii, C., Hall, R., Leopold, A., Hornby, D., Mtero, F., 2017. The impact of land property rights interventions on investment and agricultural productivity in developing countries: a systematic review. *J. Dev. Effectiv.* 9, 61–81.

- Louman, B., Meybeck, A., Mulder, G., Brady, M., Frey, L., Savenije, H., Gitz, V., Trines, E., 2020. Innovative Finance for Sustainable Landscapes. Center for International Forestry Research, Bogor, Indonesia.
- Lund, J.F., Rutt, R.L., Ribot, J., 2018. Trends in research on forestry decentralization policies. *Curr. Opin. Environ. Sustain.* 32, 17–22.
- MacQueen, D., 2013. Enabling conditions for successful community forest enterprises. *Small-scale For.* 12, 145–163.
- MacQueen, D., Benni, N., Boscolo, M., Zapata, J., 2018. Access to Finance for Forest and Farm Producer Organisations (FFPOs). FAO/IIED, Rome, Italy/London, UK.
- McDermott, M.H., Schreckenberg, K., 2009. Equity in community forestry: insights from north and south. *Int. For. Rev.* 11, 157–170. <https://doi.org/10.1505/ifer.11.2.157>.
- McLain, R., Lawry, S., Guariguata, M.R., Reed, J., 2021. Toward a tenure-responsive approach to forest landscape restoration: a proposed tenure diagnostic for assessing restoration opportunities. *Land Use Policy* 104, 103748. <https://doi.org/10.1016/j.landusepol.2018.11.053>.
- Mwangi, E., Meinzen-Dick, R.S., 2009. Understanding property rights in land and natural resource management. In: Kirsten, J., Dorward, A., Poulton, C., Vink, N. (Eds.), *Institutional Economics Perspectives on African Agricultural Development*. International Food Policy Research Institute, Washington, DC, pp. 295–318.
- Naughton-Treves, L., Day, C. (Eds.), 2012. *Lessons on Land Tenure, Forest Governance and REDD+.* Case Studies from Africa, Asia and Latin America. U.S. Agency for International Development, Washington, DC.
- Notess, L., Veit, P., Monterroso, I., Sulle, E., Larson, A.M., Gindroz, A.-S., Quaedvlieg, J., Williams, A., 2018. *The Scramble for Land Rights.* World Resources Institute, Washington, DC.
- Ormsby, A.A., Bhagwat, S.A., 2010. Sacred forests of India: a strong tradition of community-based natural resource management. *Environ. Conserv.* 320–326.
- Ortiz-Guerrero, C., Herrera Arango, J., Guaqueta Solórzano, V., Ramos Barón, P., 2018. *Historical Trajectories and Prospective Scenarios for Collective Land Tenure Reforms in Community Forest Areas in Colombia.* Center for International Forestry Research, Bogor.
- Ostrom, E., 1990. *Governing the Commons: The Evolution of Institutions for Collective Action.* Cambridge university Press.
- Pagdee, A., Kim, Y., Daugherty, P.J., 2006. What makes community forest management successful: a meta-study from community forests throughout the world. *Soc. Nat. Resour.* 19, 33–52.
- Pasiecznik, N., Savenije, H., Campbell, J.Y., MacQueen, D., 2015. What makes producer organizations effective? In: Pasiecznik, N., Savenije, H. (Eds.), *Effective Forest and Farm Producer Organizations*, ETRN News. ETRN and Tropenbos International, Wageningen.
- Paudel, N.S., Monterroso, I., Cronkleton, P., 2012. Secondary level organisations and the democratisation of forest governance: case studies from Nepal and Guatemala. *Conserv. Soc.* 10, 124–135.
- Pearce, F., 2016. *Common Ground: Securing Land Rights and Safeguarding the Earth.* International Land Coalition, Oxfam International, Rights and Resources Initiative, Rome.
- Perera, J., 2009. *Land and Cultural Survival: The Communal Rights of Indigenous Peoples in Asia.* Asian Development Bank, Mandaluyong City.
- Persha, L., Andersson, K., 2014. Elite capture risk and mitigation in decentralized forest governance regimes. *Glob. Environ. Chang.* 24, 265–276.
- Rainforest Alliance, 2021. *Integrated Community Forest Management Position Paper. Preserving Forests and Improving Livelihoods Through Community Forestry.* Rainforest Alliance, New York.
- Ribot, J.C., 2003. Democratic decentralization of natural resources. In: Van de Walle, N., Ball, N., Ramachandran, V. (Eds.), *Beyond Structural Adjustment. The Institutional Context of African Development.* Springer, New York, pp. 159–182.
- Ribot, J.C., Larson, A.M., 2005. *Democratic Decentralisation through a Natural Resource lens: Cases from Africa, Asia and Latin America.* Routledge, New York.
- Ribot, J.C., Agrawal, A., Larson, A.M., 2006. Recentralizing while decentralizing: how national governments reappropriate forest resources. *World Dev.* 34, 1864–1886.
- RRI, 2018. *At a Crossroads: Consequential Trends in Recognition of Community-Based Forest Tenure from 2002–2017.* Rights and Resources Initiative, Washington, DC.
- RRI, 2020. *Estimate of the Area of Land and Territories of Indigenous Peoples, Local Communities, and Afro-Descendants where their Rights Have Not Been Recognized.* Rights and Resources Initiative, Washington, DC.
- Santoso, H., Purwanto, E., 2020. *Improving Social Forestry in Indonesia — Recommendations for CSOs.* Tropenbos Indonesia / Tropenbos International, Bogor / Wageningen.
- Schlager, E., Ostrom, E., 1992. Property-rights regimes and natural resources: a conceptual analysis. *Land Econ.* 249–262.
- Seymour, F., La Vina, T., Hite, K., 2014. *Evidence Linking Community-Level Tenure and Forest Condition: An Annotated Bibliography.* Climate and Land Use Alliance, Washington, DC.
- Siscawati, M., Banjade, M.R., Liswanti, N., Herawati, T., Mwangi, E., Wulandari, C., Tjoa, M., Silaya, T., 2017. *Overview of Forest Tenure Reforms in Indonesia.* Center for International Forestry Research, Bogor.
- Ssemmanda, R., Kiyingi, G., Opige, M., 2020. *Collaborative Forest Management in Uganda — Recommendations for CSOs.* Ecological Trends Alliance / Tropenbos International, Kampala / Wageningen.
- Stevens, C., Winterbottom, R., Springer, J., Reyter, K., 2014. *Securing Rights, Combating Climate Change: How Strengthening Community Forest Rights Mitigates Climate Change.* World Resources Institute, Washington, DC.
- Sunderlin, W.D., 2011. *The global forest tenure transition: Background, substance, and prospects.* In: Sikor, T., Stahl, J. (Eds.), *Forest and People: Property, Governance, and Human Rights.* Earthscan, London, pp. 19–32.
- Tauli-Corpus, V., Alcorn, J., Molnar, A., 2018. *Cornered by Protected Areas: Replacing 'Fortress' Conservation with Rights-Based Approaches Helps Bring Justice for Indigenous Peoples and Local Communities, Reduces Conflict, and Enables Cost-Effective Conservation and Climate Action.* Rights and Resources Initiative, Washington, DC.
- Van der Hammen, M.C., Rodríguez, C., 2020. *Strengthening Indigenous Resguardos in the Colombian Amazon — Recommendations for CSOs.* Tropenbos Colombia / Tropenbos International, Bogota / Wageningen.
- Van der Zon, M., 2021. *Community-Based Enforcement for Successful Conservation – Lessons from the Peruvian Amazon.* Tropenbos International, Ede.
- Van Kanten, R.R., Razab-Sekh, G.R., 2020. *Improving the Outcomes of Community Forests in Suriname. Recommendations for CSOs.* Tropenbos Suriname / Tropenbos International, Paramaribo, Wageningen.
- Walker, W.S., Gorelik, S.R., Baccini, A., Aragon-Osejo, J.L., Josse, C., Meyer, C., Macedo, M.N., Augusto, C., Rios, S., Katan, T., de Souza, A.A., Cuellar, S., Llanos, A., Zager, I., Mirabal, G.D., Solvik, K.K., Farina, M.K., Moutinho, P., Schwartzman, S., 2020. The role of forest conversion, degradation, and disturbance in the carbon dynamics of Amazon indigenous territories and protected areas. *Proc. Natl. Acad. Sci.* 117, 3015. <https://doi.org/10.1073/pnas.1913321117>.
- World Bank, 2019. *Securing Forest Tenure Rights for Rural Development: An Analytical Framework.* Program on Forests (PROFOR). World Bank, Washington, DC.
- Yiah, J.W., 2020. *Community Forest Management in Liberia—Recommendations for CSOs.* Sustainable Development Institute / Tropenbos International, Duazon / Wageningen.